

REMARKS**1. Finality of Office Action/Entry of Amendments**

Kindly withdraw the finality of the Office Action for the reasons noted in the accompanying draft Petition Under 37 CFR §1.181(a)(1) to Withdraw Premature Final Rejection. Please call or otherwise advise the undersigned attorney in advance of JULY 16, 2005 whether finality will be withdrawn, since otherwise the undersigned attorney must submit the Petition by that date (which is the deadline for submission of the Petition).

Regardless of whether finality is maintained or withdrawn, the arguments set forth below clearly demonstrate why the current rejections are in error and why the claims should be allowed. Please note that if the present rejections need to be appealed, the issues noted in the Petition (and in the arguments below) will need to be addressed in any event. Thus, if any rejections are maintained, it may be beneficial for the Examiner and undersigned attorney to discuss the case via telephone to see if any issues can be simplified for appeal. Do not hesitate to call if any issues might be more rapidly resolved via telephone.

2. Claim Amendments

No claims have been canceled, added, or amended.

3. Arguments

As noted in the accompanying draft Petition, it is believed that the current rejections are erroneous and should be withdrawn in view of the arguments in Applicant's March 9, 2005 Response. These arguments are reproduced below, with further comments added in response to the "Response to Arguments" in the May 16, 2005 Final Office Action..

3.a. Section 1 of the Final Office Action: Rejection of Claims 1, 3-7, 10, 12, 24, 26, 28, 39-44, and 46-47 under USC §103(a) view of *Friedman et al.* (Multilayer Anode with Crossed Serpentine Delay Lines for High Spatial Resolution Readout of Microchannel Plate Detectors") and U.S. Patent 3,581,091 to *Meijer*

Kindly withdraw these rejections, which allege that:

Meijer discloses a particle detector having first and second anodes, wherein no structure is interposed between the anodes (*FIG. 2, element 2 and 5*) so the space between the anode is adaptably adjustable (*column 1, line 15-25 and column 2, line 32-37: The distance between the two anodes depends on the diameter of the anodes 2, 5*)...

(Page 3, May 16 2005 Final Office Action.) Regarding independent claim 1 (and its dependent claims 3 and 6), claim 24 (and its dependent claim 26), and independent claim 39 (and its dependent claims 42, 43, and 47), these claims are understood to be rejected as obvious in view of *Friedman* and *Meijer* because:

it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the detector disclosed by *Friedman et al.* such as no structure is interposed between the anodes so the space between the anodes is adaptably adjustable as disclosed by *Meijer*. The motivation for doing so would have been to obtain a spectrometer which makes more accurate determination possible as taught by *Meijer* (column 1 lines 53-55).

(Page 3, May 16 2005 Final Office Action.) The May 16 2005 Final Office Action further states that:

First of all, the applicants argued that *Meijer* does not teach or suggest adjustable spacing between the delay line anodes. The examiner responds that, as broadly interpreted, the claims are understood as the anodes adaptably mounted in a space, wherein the length of the space between the anodes is adjustable. As clearly shown in *FIG. 1*, since there is no fix structure between the anodes, an anode is free to relatively move from the other. In other words, the space between the anodes can be adjusted.¹

(Page 6, May 16 2005 Final Office Action.) These rejections are wrong in several respects.

¹ Note that the referenced "FIG. 1" is not identified as being from *Meijer* or *Friedman*. It is assumed that the Examiner is referring to *FIG. 1* of *Meijer*. If this is incorrect, please advise.

First, it appears that column 1 lines 15-25, column 2 lines 32-37, and FIGS. 1-2 of *Meijer* are cited for the proposition that *Meijer*'s "anodes" 2 and 5 (actually counters) are spaced to be adaptably adjustable.² However, *Meijer* does not in fact describe such an arrangement. Rather, *Meijer* plainly states that the counters are spaced by a distance equal to the diameter of the counters (here, 20 mm):

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In the known arrangement, a neutron telescope, according to the above described principle, the distance between the scattering foil and the first counter and that between the two counters likewise is approximately equal to the diameter of the counters and a number of tantalum foils are used for limiting the proton beam. Typical values for the diameter of the counters are 1 to 2 cm.

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25 Referring now to FIG. 1 in which the settings and the electrode supply wires are not shown, reference numeral 1 denotes a polyethylene foil, thickness 10 microns 2 is a silicon barrier layer counter. The thickness of 2 is 30 microns the diameter 20 mm. On the upper side of the disc, a number of electrode strips 3 of gold are vapor-deposited, thickness 0.3 micron, distance mutually 100 microns. On the lower side strips 4 of aluminum are provided so as to intersect the strips 3 at right angles.

30 At a distance of 20 mm. below the disc 2, the disc 5, thickness 1.5 mm., is arranged which likewise consists of silicon having at its upper side electrodes 6 of gold and at its lower side electrodes 7 of aluminum. The direction of a neutron beam is denoted by 8.

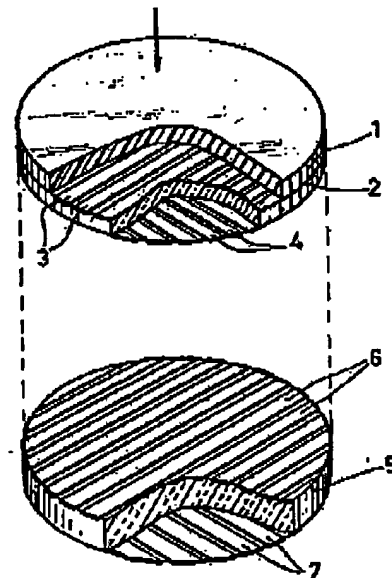


FIG. 1

Meijer requires this spacing between the anodes/counters, as in *Friedman*, since failure to precisely space the anodes/counters will result in impedance mismatch and degraded (or destroyed) signals. Note, for example, the discussion at page 8 line 24-page 9 line 16 of the present application; see also FIG. 4 of *Friedman* (showing required design thicknesses for the dielectric

² It may be useful to refer to Section 5 of the November 4, 2004 Response, which explained why the structures of U.S. Patent 3,581,091 to *Meijer* and U.S. Patent 3,529,161 to *Oosthoek* are not in fact delay line anodes.

layers separating the anodes, and the thickness error when the design was manufactured).³ Since the *Meijer* counters plainly do not have adjustable diameter – it does not even seem that such a feature could be possible – they plainly do not have adjustable spacing. *The Final Office Action does not address these points.*

Further, it is improper to interpret the *Meijer* drawings as disclosing adjustable counter spacing where the specification unambiguously describes them as *not* having this feature. See, e.g., *In re Mihalich*, 25 USPQ2d 1478, 1479 (Fed. Cir. 1992) (rejections based on Board's interpretation of drawings must be reversed in view of unambiguous passages in specification contradicting the Board's interpretation); *In re Andersen*, 223 USPQ 378, 380 (Fed Cir. 1984) (where the drawings are ambiguous, the teachings of the specification are controlling).⁴ Here, the *Meijer* drawings are explicitly described as being "diagrammatic" views of "essential elements" of the *Meijer* device, see column 2 lines 15-20, making it clear that they are simplified views, and the specification explicitly notes that the 20 mm-diameter counters are spaced by 20 mm. When the reference is fully and fairly read for all that it teaches, it is clear that *Meijer* does *not* show or suggest that "the space between the anodes can be adjusted," as the Examiner asserts.

³ Note that in FIG. 4, the upper delay line anode is labeled as "upper board," the lower anode is labeled by "lower board," and the duroid 6002 layer therebetween maintains them at a fixed distance.

⁴ As stated by the Court of Appeals for the Federal Circuit in *Andersen*, "The only support for the appellant's position is found in one of the drawings in [the cited prior art reference] *Winder*. . . . The referenced drawing is merely a simplified schematic intended to provide a summary overview of *Winder*'s timing sequence. The timing ambiguity in this simplified drawing does not outweigh the consistent and unambiguous detailed teachings of the specification and mechanical drawings of the *Winder* patent. See *In re Chitayat*, 408 F.2 475, 478, 161 USPQ 224, 226 (CCPA 1969) "[p]atent drawings are not working drawings," quoting *In re Wilson*, 312 F.2d 449, 454, 136 USPQ 188, 192 (CCPA 1963)."

Also, since *Meijer* is being used to modify *Friedman*, it is important to look to both references *in their entireties*, as required by MPEP 2141.02. Here, note that *Friedman* starts with two separate delay line anodes, just as *Meijer* uses two counters (see discussion at page 599 of *Friedman*) – but *Friedman* then bonds/fuses the two anodes together, to the design distance noted in FIG. 4, in order to avoid any variability in spacing. Consider: would one of ordinary skill truly regard it as obvious to modify *Friedman* as allegedly suggested by *Meijer* if *Friedman* first starts with an arrangement similar to *Meijer* (separate anodes/counters), but then attaches the anodes together so that they have a firmly fixed distance? It is plainly contrary to *Friedman*'s purposes to use separate anodes, and it is in no way beneficial or obvious to separate *Friedman*'s anodes to be adjustably respaceable. See MPEP 2143.01 (subsection entitled "The Proposed Modification Cannot Render The Prior Art Unsatisfactory For Its Intended Purpose"). *The Final Office Action does not address this argument.*

It is therefore seen that *Meijer* does not in any way teach or suggest adjustable spacing – it teaches spacing the counters apart by a distance equal to their diameters – and such fixed spacing is squarely in line with the other prior art of record, including *Friedman*. Independent claims 1, 24, and 39 are therefore submitted to be allowable.

Regarding dependent claims 4-5 and 40-41, note that in both *Friedman* (see FIG. 4) and *Meijer* (see foregoing passages, noting 30 micron thickness for counter 2 and 1.5 mm thickness for counter 5), the anodes are very different (and they have to be different in order to have coupled impedances). Thus, neither reference offers any disclosure or suggestion of the arrangement recited in claims 4-5 and 40-41. The Examiner argues:

As regarding to arguments relating to claims 4-5 and 40-41, the applicants argued that neither reference offers any disclosure or suggestion of the first and second delay line anodes are identical. In response, the examiner cites that *Friedman* in FIG. 1 discloses two identical delay lines arranged orthogonal on different planes.

(Page 6, May 16 2005 Final Office Action.) However, this conclusion is also plainly erroneous and results from overreading the *Friedman* drawings. Note that the caption to FIG. 1 of *Friedman* plainly describes it as being a "schematic" view, and if you then review the adjacent section "II. THEORY OF OPERATION," it notes that FIG. 2 provides further detail – and here the leads

of the delay line are explicitly labeled as being different (210 micron-wide leads spaced by 280-micron distances in the upper anode, and 125 micron-wide leads spaced by 375-micron distances in the lower anode). For even further details, refer to the aforementioned FIG. 4 of *Friedman* and column 2 lines 24-35 of *Meijer*, which very clearly show and describe the extreme differences in prior art anode sets. It is not proper to interpret *Friedman*'s schematic view of FIG. 1 as depicting identical/interchangeable anodes, where the remainder of *Friedman* (and *Meijer* as well) very explicitly note that this is not the case. See the foregoing footnote 4.

Regarding claims 10-11 and 44-45: As noted in the Response of April 30, 2004, "flex circuit" is a term of art referring to flexural circuit boards (see, e.g., page 14 lines 1-8, page 18 lines 15-17 of the application). *Friedman* does not disclose the use of flex circuits, and rather teaches the use of rigid "copper-clad" and "ceramic-filled" boards (see page 599) – which are further bonded to a brass plate for even greater rigidity. Consider that use of a flex circuit appears contrary to the prior art since such a circuit, being flexible, would seem to allow easier bending of a portion of an anode so that it would be mis-spaced with respect to the other anode (thus causing the aforementioned impedance mismatch). Thus, neither *Friedman* nor *Meijer* teach or suggest the arrangement recited in claims 10 and 44. Further, even if the boards of *Friedman* and/or *Meijer* are regarded as being even slightly flexible, it does not seem feasible that they could bend to the degree recited in claims 11 and 45.

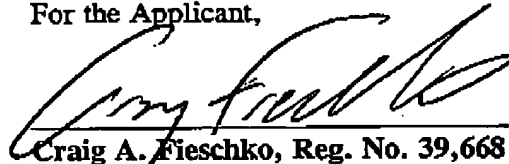
3.b. Section 2 of the Final Office Action: Rejection of Claims 2, 25, 27, and 48-49 under USC §103(a) view of *Friedman et al.* (Multilayer Anode with Crossed Serpentine Delay Lines for High Spatial Resolution Readout of Microchannel Plate Detectors), U.S. Patent 3,581,091 to *Meijer*, and U.S. Patent 3,359,421 to *Perez-Mendez et al.*

Claim 2 is dependent from independent claim 1, claims 25 and 27 are dependent from independent claim 24, and claims 48-49 are dependent from independent claim 39. All are submitted to be allowable for at least the same reasons noted above in Section 3.a of this Response.

4. In Closing

If any questions regarding the application arise, please contact the undersigned attorney. Telephone calls related to this application are welcomed and encouraged. The Commissioner is authorized to charge any fees or credit any overpayments relating to this application to deposit account number 18-2055.

For the Applicant,



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ATTACHMENTS:

- Draft Petition to Withdraw Premature
Final Rejection